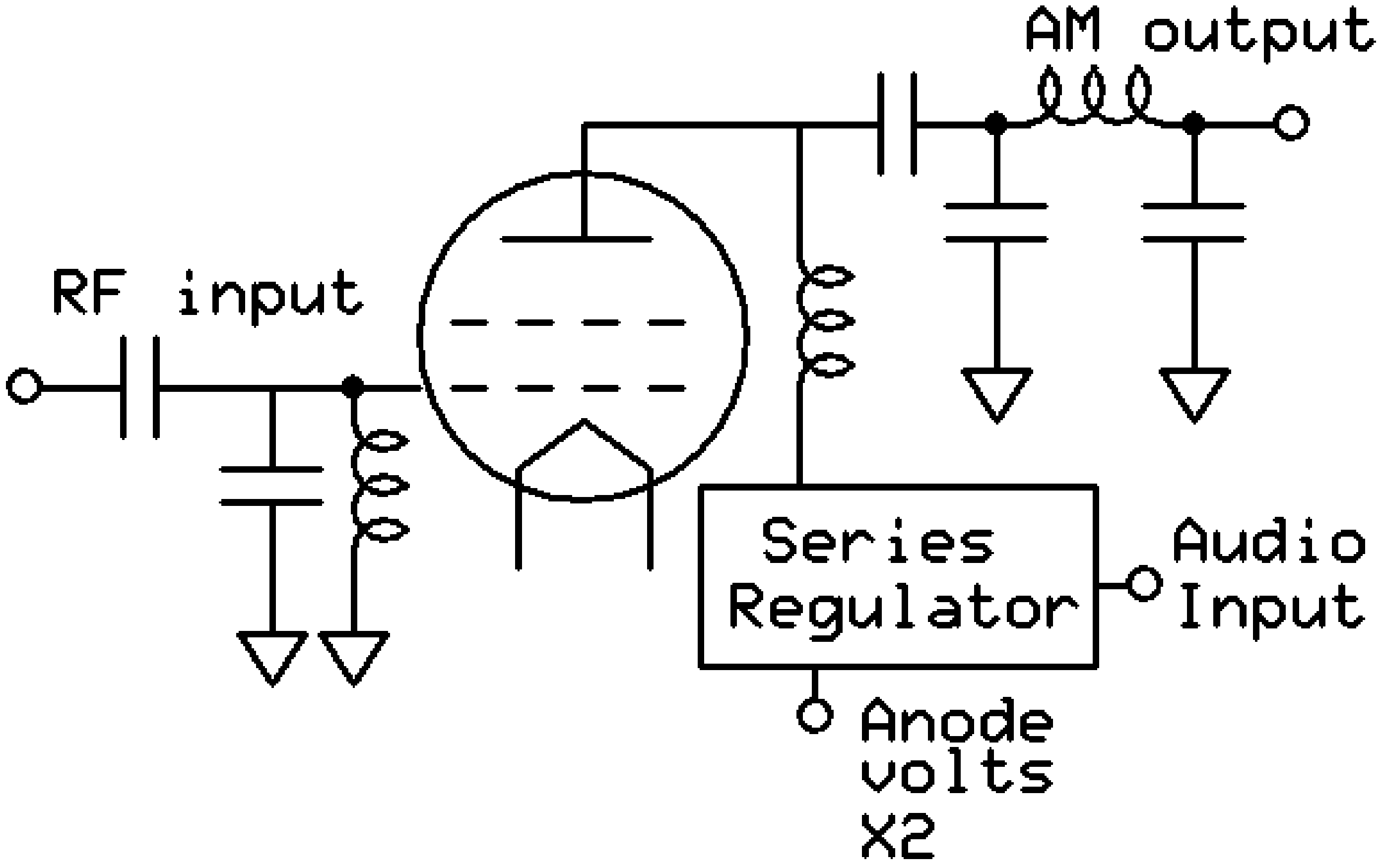
Tips For Internet Broadcasters



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Mr. Childers' work has been cited in several national and International publications, including these:

Five Essays on Copyright In the Digital Era
Turre Publishing

Research On High-Profile Digital Video Production
Digital Content Association of Japan

Video Podcasting in Perspective: The History, Technology, Aesthetics and Instructional Uses of a New Medium
Journal of Educational Technology Systems

Video Podcasting: When, Where and How it's Currently used for Instruction
The National Convention of the Association for Educational Communications and Technology

Preservation of audiovisual mediums: Problems and challenges
Platform for Archiving and Preservation of Art on Electronic and Digital Media
Centre of Expertise in Digital Heritage

P2P Technology Trend and Application to Home Network
Electronics and Telecommunications Research Institute Journal

Peer To Peer Computing - The Evolution of a Disruptive Technology
Idea Group Publishing

Peer-to-Peer Systems and Applications
Lecture Notes In Computer Science
Springer Berlin / Heidelberg

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Feedback

Please feel free to contact the author if you have any questions or comments. Your feedback is greatly appreciated.

You can contact the author here: www.KL7AF.com

Foreword

Greetings,

Welcome to my continued exploration of the Internet broadcasting field. The new dawn of entertainment and information distribution is making many changes in the broadcasting industry. The growth of Internet broadcasting and Internet multimedia distribution also continues at a rapid pace.

A knowledgeable background is essential for operating an Internet broadcast station effectively. A thorough knowledge and understanding will allow the Internet broadcaster to maximize their efforts for operating a station. The maximized effort will ensure the success of any broadcast station willing to put forth the time and effort.

I would like to thank James Davey at Broadcasting World for allowing me the opportunity to create this guide.

It is my sincere hope that the reader finds this guide beneficial.

David Childers
www.scenicradio.com

December 2014

Posveèeno Neži Vidmar.

Vivere est vincere.

Knowledge has to be improved, challenged, and increased constantly, or it vanishes.

Peter Drucker

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The Amazing You

You have talents that corporate broadcasters will never have access to. You are also not tied to a set of corporate guidelines that would prevent you from thinking outside the box.

You have the ability to be interpersonal with your audience. BELIEVE IT OR NOT, this is the most powerful weapon in your arsenal. You can interact with your audience in ways that large stations will never be able to. Big media does appreciate listeners for things other than ratings or advertising dollars.

You have the drive, and you are not doing this for just a paycheck as a 9 to 5 job. You are broadcasting because you want to, you have an inner motivation that pushes you. You are not afraid to spend extra time to make things just right to really wow your audience. That drives innovation and pushes you to drive your talents further.

You have artistic license to present programming and content that is not mainstream. You are not forced to repeat the same artists, songs and albums.. Corporate broadcasting rarely deviates from a set musical routine because the alternative is not a guaranteed sell for their audience. Corporate broadcasters have a rigidly defined audience that they must cater to. Internet broadcasters do not have geographic restrictions; which allows them to reach a truly multicultural global audience.

Commercial broadcasting stations go through multiple DJ's before finding the right one. The manager is looking for that great voice that fits what he imagines, combined with some musical knowledge. "You" on the other hand, are part of your genre's culture. You have a knowledge base that will allow you to ramble on for days about what you know in your musical field of expertise, and this makes you mighty. You know what you want for content. You know what you want to say to your audience. You know your target audience by heart, and, you interact with your target audience on many social levels.

Key Roles In Internet Radio

It is important to understand that the successful operation of an Internet broadcast station requires individuals of many talents. These individuals must be willing to take the time and effort to learn about the station, the target audience and make it their goal to provide the best service possible for the audience. You might be wearing two or more hats depending on the size of your station.

For many years, there have been different jobs that have been altered and changed many times by the professional broadcasting world. The station budget and manpower have a lot to do with this. As a new broadcaster on the Internet, you may not have much of either. While the list of the professions below reflects a professional broadcast station, consider your roles and what hats you need to wear.

As a hobbyist, an advertising manager or a revenue coordinator might not be as important. In the event that you are a single person station internet broadcaster, as many of us are, you have several decisions to make. It is important to pick which hats you are going to need to wear currently. It is also important to understand which hats take priority.

This would be a good time to sit down with a piece of paper. Mark up a simple budget of what you can and cannot spend. I always recommend making your budget annual. It is important to get an overall picture of the station's operation and understand that it can get expensive. Technology is never cheap, especially quality technology. A poor performing audio microphone can turn your listening audience off, or computer equipment that works sporadically and hinders your station operation can turn your listening audience off as well.

Before you do anything, make one big number. This does not include donations or what you think you will generate in revenue. Make that number one big pot. This is what you are willing to part with if you have no donations or advertising. This is a good practice because there are a lot of small costs in internet broadcasting.

Split the money pot into a couple of different ways.

* Hardware.

This includes all of the stations major pieces of equipment. Some examples of station equipment include audio mixer, sound card, microphone, pop screen, microphone boom or mic stand, and any external the sound processing devices. You should also consider replacement or upgrade costs for computer and video monitors.

* Distribution.

Next you will need to cover the cost of content distribution. This is your multimedia server. You will also have to consider the cost of an Internet service provider to factor in. You will also have to consider the listening audience size and the amount of quality bandwidth that your server host will require to reach your projected audience.

* Software.

Now lets factor in software. If you are using a paid program to broadcast, such as Sam broadcaster or nextcast, which will require more money.

The list could go on and on. Make some lines on your pie chart, and figure out what money is going where for this year. My strongest recommendation for broadcast hardware is that you dabble. If you like the equipment, and you really enjoy it, do not beat around the bush. Get the gear that you know you will enjoy for the next year.

That is one hat that everybody is going to need to wear.

Content is what you are putting on the air. This is where you put on the hat of the website content coordinator. It might be as simple as showing your last music playlist. It might be running a chat room while you have your blogtalk radio show, and take interviews via your phone. Your website content is kind of like a garnish to a superb steak dinner.

However, we are not talking about steak; we are talking Internet radio streams.

Your listening audience is the consumer of your station content. If your station content is mediocre, but your content on your website is great, that might just be what brings the listener back.

Mark Ramsey made an important observation during the 2014 Radio Ideas Festival. He commented that in this day and age of technology, many stations have gotten tunnel vision with the opportunities for content. This will be the downfall of the radio industry.

Station Coordinator

Coordinates the overall operation of the station. This person ensures that all departments of the station effectively cooperate to make the station run smoothly.

Broadcast Content Coordinator

Researches and acquires content for the broadcast or distributed multimedia. You can equate this to being a "scavenger" of media content. This person will go out and gather content from inquiries to the general public, news, independent artist, etc.

Website Content Coordinator

Researches and acquires content for the website. This person finds the content that will most appeal to your station's audience.

Website Coordinator

Creates and manages the website. This person coordinates website content among the different station departments.

Audience Coordinator

Coordinates activities for audience participants with the broadcast, website or distributed multimedia. This is the person that makes the radio station fun for the audience, even things that are not typically fun.

Promotion Coordinator

Researches and implements promotion for the broadcast, website or distributed multimedia. This is the person that will promote the station locally, within the genre itself, via Search Engines or through viral social media.

Revenue Coordinator

Researches and implements revenue opportunities for the broadcast, website or distributed multimedia. This is the person that searches for the best profit potential for your station.

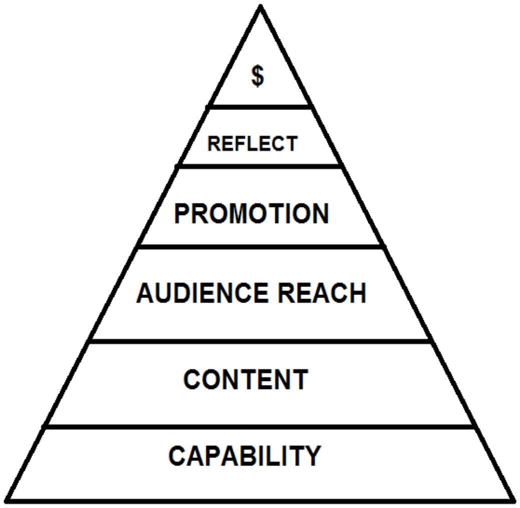
Streaming Internet Coordinator

Provides streaming and Internet services support. This is the person that ensures the station audio, video and connectivity hardware are functioning optimally.

Computer Coordinator

Provides general support for computer systems. This is the person that ensures the computer software and hardware are functioning optimally.

Hierarchy Of A Successful Station



The above diagram is the hierarchy of a successful station. This is a bare-bone model that many Internet stations use to achieve success. Is this pyramid necessary to have a great station? Not really.

There have been numerous radio stations that tried to establish an excellent Internet radio station without a technical engineer, which is not having your capability foundation covered. Some stations thought they were going to launch an Internet radio station without much thought into having a good listener base. They have invested significant amounts of money and resources. Then, much like climbing stairs with missing steps, they ended up falling on their faces.

Let us take a look here of what these steps realm represent.

Capability

Every single Internet station operator knows the two most important positions are engineering and financial.

Capability represents your ability to send a stream to your server and your servers ability to distribute the audio to your listening audience. This also represents your sustainability of the station in financial terms.

Time is also a factor in a stations capability. Time is sustainability, recognition and represents stability.

* Station Engineer

- How am I going to have time to deal with adding content to my station?

- How am I going to have time to troubleshoot when things go wrong?

There are still audio professionals that carry the highest recommendations in the world, and they have no clue to master how Internet broadcaster stations work. So if you did not pay the thirteen year old young adult next door to set up your Shoutcast station for broadcast, you would need to troubleshoot the station when things go wrong. Moreover, they will.

Be ready to wear your financial hat, your engineering hat, and be prepared to invest time to make your station the best. I cannot reiterate enough that this represents doing the bare minimum. Putting audio in a computer to send audio to the server, and have a server distribute it to your listening audience.

Content

This is the bread and butter for any station. This is also the reason that people want to listen to your station. Content is in the intellectual property. It is the touch that makes your station uniquely you.

Long before the days of Pandora, there were automated radio services that would cater to your musical genre needs. They had no content, it was all music, much like Pandora. This was Yahoo Launch.

After many years of financial losses, Yahoo Launch was forced to close down. 50 stations and a vast musical selection with a budget to back it. They closed it because they did not have the audience. Meanwhile, Shoutcast continued to grow and expand with content. There were people running radio stations with a 3.5 mm jack mic, and winning big in the listening numbers.

Content also includes your station beds, sweepers, spots, and drops. It also includes the voice on the microphone, which might be yours or another person.

Consider the idea of content as thinking about it as a restaurant.

There are a million restaurants that sell steak dinners. Some restaurants cannot cook it right, but yet they all sell steak. What separates these million restaurants beyond the fact that they are a different restaurant that the steak was served in?

* How about the way the steak was presented?

* How about the garnish?

* How about the way the season with layered?

* How about the appetizing look of the perfectly cooked steak?

Now ask any one of those chefs whom they think makes the best steak. You do not have to because you already know the answer.

Unique and quality food with excellent service is what makes a great steak house This is also what makes a great Internet radio station.

* How is your station different than all the other thousands of internet stations playing the same genre?

* How do you program your station to be different from all the others?

Some stations might program their content with a be bare minimum just like Yahoo Launch many years ago, just playing random music with no sweeper, no identifier, no website. Just like so many other music streams that came and went. Then there some stations that have a person using a microphone and actually talking to the audience. The station may have only six listeners. The station may be operating out of a garage, three of those listeners are family members that feel obligated it to listen. This is a victory for the station operator.

Every so often the person talks about what is going on in their hometown. Then they talk a little bit about what they are going to do today. It might be boring, but do you know what that is? That is unique content, and this is what separates that person from the other 2000 stations that have no listeners, doing nothing but playing music.

Content is more than just talk; it is you branding your station. It is you putting your flag in the sand and claiming your station. It is you verifying your style. It is what makes your station - your station.

Audience Reach

Audience reach is not about search engine optimization. Internet radio is unique in the sense that it is available everywhere where bandwidth is present.

This blessing comes a curse. Remember those single operator Internet stations that we were talking about? You are now competing with thousands of other Internet stations. So this question now comes into play - How do I get found?

The answer depends on what devices can tune into your Internet station.

There is no magic bullet yet to allow every device on earth to enable a person to push one link, and it will connect to a stream. The Internet broadcast industry has come a long way in ten plus years, which include many wins with Flash, HTML 5, and advanced codec support. However, the technology is not quite there yet.

This is where more of your content distribution comes into play. For example, some stations went from ten listeners to two hundred listeners overnight thanks to the Apple Itunes directory. Some people had the same results when they began using the tune in app. My personal favorite approach is choosing a universal codec which works for BlackBerry devices.

This is where you a grab pen and paper. Start searching the Internet and find out which directories are out there. Find out what the requirements are to get listed on them. This is also where you make it appealing website. Something creative and that is catchy.

You know what happens when I go to most professional websites for FM stations? I say to myself this website is garbage. Did you listen to an FM station over the last five years? Will you say it is garbage too?

They all slowly started to change their launch page image. Maybe they learned from us. Maybe they found the same distribution company that would do all the heavy lifting for them in terms of serving a stream. If you did not know, the stations did. Most of their content serving pages (what we call launch pages) duplicates their competitors web pages.

We mentioned search engine optimization. What is this and why is this important? Have you ever typed something into Google, and wondered why some pages get listed first? This is because of search engine optimization. This is how search engines rate each website, based on keywords and content. Quality content and quality keywords are what search engines love.

Promotion

Building a foundation for a station audience can be easily done using the internet. However, it takes time and patience.

Do not rely on placing your station in a directory and expecting the masses to swarm to your radio station!

Go to chat forums and tell them that your station has the content of that form has a radio station that exist.

Go to the local coffee shop and post your station fliers, make your station flier comical or satirical.

Think outside the box!

As the radio station operator with no listeners, what he does for station promotion. The radio station operator that does these simple things may only attract two or three listeners. However, people like the interaction. Two or three listeners that become loyal can be contagious. They will tell their friends, their families, and co-workers.

Any proactive approach is an excellent approach.

Stations that have to go and fight for their business market will never reap the rewards that can be had when a business owner hears about the station through the community. I am talking loyalty, or more specifically die hard fans. This is what brings the market to you.

It starts with pro-activeness. Any proactive approach is a good approach. This cannot be said enough.

Reflect

The next stage will be the reflect stage if your pyramid blocks fell into the right places. This is where your station becomes bigger than just a single station operator. This is where you think of collaborating with some of your station listeners. This is where you really look at the feedback you have received. Ask yourself what you should change. Be your hardest critic. Take a good look at your website. Listen to your station for awhile. Ask yourself what you can done better. Compare this with other Internet radio stations. This is your key to success.

$

You are probably asking what this symbol means.

Why is that at the top of the hierarchy?

Does your station have revenue coming in?

Is that symbol represent respect? Is it a status symbol of success?

Is it the sign for when hard work pays off?

I love that symbol because it is something that mean accomplishment in my eyes.

Unfortunately, because there are things that are out of your control, it feels like this pyramid sometimes does a balancing act on its tip. As the station manager, It is up to you to figure out how to quickly recover, and verify your pyramid is intact.

Station Identity

The most valuable commodity your station has is its identity. A unique identity distinguishes your station from all the others. How can you promote your station if you cannot identify or define what type of broadcast station you operate. Why would people want to watch or listen to your broadcast station if you cannot effectively promote it?

For example, there is a big difference between using a description of “A Jazz station” and “Classic Rag Time Jazz Radio.”

You must be able to answer specific questions about your broadcast station. The answers to these questions are important for helping you understand what defines your broadcast station.

* What is your station logo and how does it re-enforce your station programs.

* What is your station slogan and how does it re-enforce your station programs.

* What is your station name and how does it re-enforce your station programs.

* How do you identify your audience.

* What meta tags are used with your station and broadcast.

   - Why are these specific words use for meta tag identification?

* What is the unique genre of media that you offer the audience.

* Who exactly is your station competition.

* What is your ranking in comparison to your station competition.

* What does the competition do, that your station does not.

Target Audience

Defining a broadcast station's audience enables that station to create the programming content for attracting a specific audience, advertisement planning and for station promotion.

* Here are a few examples:

  - A classic country western broadcast station probably should not use classical music concepts to attract an audience.

  - Advertising tailored for young men probably should not be used for a female audience.

The target audience can be defined by the type of programming the station offers and the language used in the broadcast.

* There are several elements used for determining a comprehensive target audience. These elements include:

  - Programming interests.

  - Geographic location.

  - Age.

  - Gender.

  - Language.

  - Lifestyle.

* The following methods can also be used to define the station audience further:

  - Feedback.

  - Surveys.

  - Statistical analysis of web streams.

  - Statistical analysis of web traffic.

An Internet broadcasting station has no geographic limitations, unlike the typical terrestrial broadcast station that has a defined geographic target area. The audience potential for Internet broadcasters is global, and the only limiting factor is the availability of bandwidth for content distribution.

Capture Your Audience

It is important for a broadcast station to engage the audience using multiple approaches. This allows a broadcast station to attract and retain their audience base effectively. It is important to engage the audience using both quality programming content and encouraging the audience to connect with the station.

There are several methods that can be used to connect the audience with a station which include:

* Internal audience connections.

* External audience connections.

Internal Audience Connection

A station has complete content and advertising control when using internal audience connections. This allows the station to use these resources as they deem necessary. It is important for a station to focus their efforts on attracting audience connections internally.

Internal audience connections include:

* Forums.

* Blogs.

* Newsletters.

* Magazines.

External Audience Connection

A station does not have complete content and advertising controls when using external audience connections. They are governed by external guidelines and terms. External audience connections, however, can be used to attract additional audience members. This can be used to direct or funnel audience members toward Internal Audience Connections or Internet assets that the broadcast station has. External audience connections can also spread content virally or socially.

* External audience connections include:

  - Facebook.

  - Twitter.

  - Tumbler.

  - Pinterest.

Both internal and external audience connections can be used together to increase the overall effectiveness of audience connections.

Both internal and external audience connections can utilize audience submitted material to create unique content.

Both internal and external audience connections can be utilized to direct audiences to multiple content targets.

Program Cycles

Dayparting is the practice of dividing the broadcast day into several parts, with each section of the day having unique types of radio or television program. Daypart segments typically consist of

* Morning.

* Midday.

* Afternoon.

* Evening.

* Late night.

If you are broadcasting to a global audience, you can designate different time blocks for specific geographic regions or different types of entertainment.

Things to consider when programming content for daypart time blocks.

* Each daypart time block should have consistent elements that blend smoothly together

These elements consist of:

* Program content.

* Advertising.

* Sweepers.

* You should transition smoothly between each daypart time block.

  - Transitioning between different types of programming content takes a bit of finesse but it can be done with style.

Sweepers

A radio sweeper is a short, prerecorded announcement used by radio stations as segues between songs that give listeners a brief station identifier or promoting future content. Here is an example: "You are listening to the soft sounds of classy radio. Easy and soothing music throughout the Apple Valley area".

Dry radio sweepers are voice only, with no music or sound effects. Wet sweepers generally contain sound effects (also known as "sonic", a global term for all sound effects and elements used in a sweeper.)

The sweeper ID is typically composed of three elements, which include:

* Station name.

* Station slogan.

* Station website address.

Example:

* Station name – You are listening to pure metal radio.

* Station slogan – We are cranking the hits around the world.

* Station website address - Check out our website at metal head dot com.

Note:

Sweepers typically contain 25 words or less.

You should strive to use the following guidelines in every sweeper creation:

* Brevity - Keep the wording short, but concise.

* Clarity - Make every word used count.

* Appeal - Maximize each element of the sweeper for a combined overall effect.

* Overkill - Do not overshadow the voice track with background audio.

Media Distribution

Establishing adequate broadcast and content distribution is key to the success of any broadcast station. The broadcast and multimedia content should be available for the widest range of devices and operating systems possible. Not having the right distribution means can significantly impact your station.

Here are some examples to consider:

* Audience members cannot listen to the station at work. This is because their office computers do not allow non-approved software to be installed on the computer. This can also be solved by offering the content in several formats including an HTML 5 embedded player option.

* Examples of Free and Open Source HTML5 embedded players.

  - http://www.videojs.com

  - http://www.jplayer.org

* Audience members want to access your station on mobile devices or have bandwidth limited Internet connections. This can be solved by offering the content in different bitrates.

* Audience members do not approve of the audio or video quality. This can also be be solved by offering the content in different bitrates.

* 32 Kbs.

* 64 Kbs.

* 128 Kbs.

* 256 Kbs.

* 512 Kbs.

There are several Open Source audio and video codecs that provide excellent quality at multiple bitrates.

Audio

* Opus.

* Ogg Vorbis.

* FLAC.

Video

* VP8.

* Theora.

* Dirac.

Media Content

The purpose of a broadcast station is to provide entertainment or information to an audience. It is important to ensure that the station programming is what your audience desires. Researching and providing focused program content that is tailored to your target audience ensures that it will be well received. It also greatly enhances the audience potential and entices the audience to return.

Think Niche, Niche, Niche and Niche again for genre or broadcast content selection.

The station can request feedback from the audience for improving or altering the station programming to increase the audience potential. Feedback can also be requested and used for improving the station website or additional multimedia downloads. The station staff can randomly select people that participate in providing feedback and give them a small prize or some type of recognition. Recognizing people that provide feedback could greatly increase the number of people that do provide feedback.

* The broadcast station should properly license all broadcast content and multimedia download content.

* KISS (Keep It Simple Stupid)

Create additional multimedia content for audience participants to download. This is extra content that can keep audience participants loyal to the broadcast station. This additional content should focus on and compliment the primary multimedia content and the broadcast station.

Examples of the additional multimedia content include:

* Audio podcasts.

* Recorded video shows.

You can do record and produce additional multimedia content shows at select locations outside the studios. You can invite the audience to attend the shows to generate more interest in them.

All content should be:

* Unique.

* Entertaining.

* Informative.

* Focused.

Periodic announcements should be included within the broadcast and multimedia download content to invite the audience participants to visit the station website. This is free advertising that can draw casual audience participants to the station website.

Media Licensing

List of national agencies for various countries that are responsible for collecting music royalty fees for Internet broadcasting.

Country	Website
Australia	http://www.ppca.com.au/music-users-/webcastlicensing/
Belgium	http://www.uradex.be
Canada	http://www.streamlicensing.comhttp://www.koda.dk/eng/music-users/
Denmark	http://www.koda.dk/eng/music-users/
Finland	http://www.teosto.fi/en/licensing
France	http://www.adami.fr
Germany	http://www.gema.de
Holland	http://www.mijnlicentie.nl
Ireland	http://www.ppimusic.ie/using-music/using-music-on-the-internet
Italy	http://www.imaie.it
Japan	http://www.jasrac.or.jp/ejhp/users/index.html
Norway	http://www.gramo.no
Portugal	http://www.gdaie.pt
Spain	http://www.aie.es
Sweden	http://www.sami.se
Switzerland	http://www.swissperform.ch
UK	http://www.ppluk.com/I-Play-Music/Radio-Broadcasting/Radio-types/Online-radio-and-services/
USA	http://www.streamlicensing.com

Royalty Payment Agencies

Christian Genre	http://us.ccli.com/
Christian Genre	http://www.christiancopyrightsolutions.com

Alternative Media Licensing

Creative Commons

These are typically accepted Intellectual Property licenses that allow creators of content to specify which rights they reserve, and which rights they waive for the benefit of recipients or other creators that may use their content.

Attribution
CC BY

Attribution-ShareAlike
CC BY-SA

Attribution-NoDerivs
CC BY-ND

Attribution-NonCommercial
CC BY-NC

Attribution-NonCommercial-ShareAlike
CC BY-NC-SA

Attribution-NonCommercial-NoDerivs
CC BY-NC-ND

In depth information regarding Creative Commons Intellectual Property licensing.

http://www.creativecommons.org

Public Domain

Content whose intellectual property rights have expired or have been forfeited should be considered to be in the Public Domain. Public Domain content can be used, remixed or edited for commercial or non-commercial use without the need for obtaining authorization. It is essential to verify the intellectual property status of content before assuming the material has Public Domain status.

The Samuelson Law, Technology & Public Policy Clinic at the University of California Berkeley School of Law, has written a Public Domain Handbook to help individuals properly identify Public Domain Intellectual Property.

http://www.law.berkeley.edu/files/Final_PublicDomain_Handbook.pdf

Website Planning

Establishing and maintaining a station website is very important to the overall success of the broadcast station. If the website has quality content that is regularly updated, then the website can develop regular visitor traffic.

The website serves multiple functions.

* A source of information about the station.

* A platform for providing additional content not found in the multimedia broadcast.

* A source of advertising revenue.

* A community portal for fans of the Internet broadcast.

Thorough planning and implementation of the website is crucial to the success of the broadcast station as well. Poorly planned or badly implemented websites detract from the website visitors overall impression and reflect poorly on the broadcast station.

It is important to promote the station website in the actual station broadcast, additional multimedia download content, and social media content. This is free advertising that can draw casual audience participants to the station website.

* KISS (Keep It Simple Stupid)

* Spelling.

   – Poor spelling shows a lack of professionalism.

* Grammar.

   – Poor grammar also shows a lack of professionalism

* The website should be easy to navigate.

   - Difficult to navigate websites will frustrate people and make them lose interest.

* The website should be easy to use on mobile devices.

   - More web traffic is being delivered via wireless networks.

* The website must be HTML compliant.

   - This will ensure that all elements of the website will be easily accessible by all modern web browsers.

* Do not overload webpages with scripts or bloated HTML functions..

   - This slows down webpage function on low bandwidth connections and detracts from the overall user experience.

* Each website section or page should have a specific theme or purpose.

   - This will help individual website pages achieve good search engine optimization results.

* It is crucial to have as many unique and individualized pages within the website as possible.

   - This provides the ability to maximize advertising potential.

* Create website pages naturally, DO NOT create website pages just for the sake of advertising.

Suggested Types Of Web Pages

* Index.

* About.

* Contact.

* Station staff.

* Links.

* Advertising inquiries.

* Content submission.

* Additional content.

Additional Web Page Suggestions

* How to access broadcast.

* How to access additional multimedia content.

* Station schedule.

* Important station staff.

* Embedded multimedia player.

* M3u file, Pls file, Asx file, etc.

Important Legal Notices

- Terms Of Service	- As required.
- Privacy Notice	- As required.
- Digital Millennium Copyright Act	- As required.
- Cookie Notice	- As required.
- Children's Online Privacy Protection	- As required.

Website Content

Content is essential for attracting and retain website traffic, especially content that is updated frequently.

Content must also be relevant to the broadcast station and the audience.

Some examples of content that can be frequently updated include:

* Quote of the day.
* Historical fact of the day.
* Song of the day.
* Word of the day.
* Picture of the day.
* Music video of the day.
* Staff submitted content.
  - Video.
  - Picture.
  - Writing.
    # Contest to pick the best entry.
* User submitted content.
  - Video.
  - Picture.
  - Writing.
    # Contest to pick the best entry.
* Recently played multimedia.
* Chat Box.
* Twitter feed.
* Facebook feed.
* Tumblr feed.
* General news.
* Entertainment news.
* Station event multimedia.
* Station news.
* Station blog.

The website must also have a multi-layer approach for content to generate website traffic. Each layer will attract a slightly different type of visitor, but all visitors are all driven by a common interest in the broadcast station. It is important for each layer to integrate with and support every other layer.

These different layers include:

* Audio supporting text.
* Text supporting video.

* Video supporting pictures.

* Pictures supporting text.

Website Creation

There are two primary options for website development and creation.

Hypertext Markup Language (HTML)

HTML requires the use of specialized computer language (Hypertext Markup Language) for the development and creation of websites. HTML is what drove the development and creation of information presentation on the Internet. It is still a relevant method for tor those willing to take the time and learn the language.

Content Management System (CMS)

CMS allows people to create websites without the need to know and understand HTML. Websites developed with CMS can offer the same amenities and presentation possibilities that standard HTML websites offer.

CMS allows the creation of a single template of website page information that can be duplicated several times or hundreds of times depending on your website needs. CMS is ideal for large scale website or websites that offer many features or a lot of content.

CMS software can be sub-divided into two categories.

Requires a database for storing or retrieving the website template information.

Does not require a database for storing or retrieving the website template information. The website template information is stored in an XML formatted text file, which is commonly referred to as a “flat file”.

There are many CMS software applications that fall into both categories of website template information storage which are used by many professional organizations and businesses. Both types of CMS software applications have advantages and disadvantages that can affect the overall website performance. Any informational contrast and comparison can be viewed as a subject critique versus an objective critique. Therefore, it is important for the web developer to research the information on their own and make their final decision based on what they find.

Here is a brief synopsis of the pro's and cons for each category:

* Websites that use database driven CMS do not scale well with large traffic load.

   - Constant database use also increases system resource use on the hosting web server.

* Websites that DO USE database driven CMS have become a target for individual and groups of hackers.

* Websites that DO USE database driven CMS typically require additional time for website content development.

* Websites that DO USE database driven CMS require additional support for data migration when changing host servers.

* Websites that DO NOT USE database driven CMS typically require PHP installation that are updated routinely.

* Websites that DO NOT USE database driven CMS typically require the ability to set file access permissions.

Website Optimization

Optimization is important to make both the multimedia content and website content stand out. The object is to use keywords that focus on specific aspects of the website or multimedia content. These keywords are used in website content or content descriptions. Optimization creates a higher search engine ranking based on the use of those specific keywords.

* Text on primary website pages should use keywords that focus on the station genre or broadcast content.

* Use keywords naturally within a website.

  - Do not create arbitrary pages or content to inflate keyword use artificially.

* Tag all multimedia and graphic content with metadata information.

  - Internet broadcast.

  - Multimedia download content.

  - Images.

    # The metadata should use keywords that focus on the station genre or specific multimedia content.

* A sitemap file should be created for the website.

  - Free online sitemap creation tools.

    # http://www.xml-sitemaps.com

    # http://www.web-site-map.com

    # http://www.xmlsitemapgenerator.org

* Each web page should have a unique title.

* The index page title should contain one or more of the keywords associated with your station.

* The index page should contain a <H1> </H1> listing of one or more of the keywords associated with your station.

* The index page should contain one or more of the keywords associated with your station used within the text.

Web Host Checklist

* Price.
* Technical Specifications.
    - Disk Space.
    - Bandwidth.
    - Reliability / Uptime.
* Technical Support.
* Features
    - FTP, PHP, Perl, SSI, .htaccess, SSH, MySQL, Cron, Database, SSL, E-Mail.
* Plugins.
* Hardware.
    - Ram.
    - Hard Drive Type.
* Operating System.
* Customer Reviews / Satisfaction / Reputation.
* Control Panel / User Interface.
* Refund Policy.
* Business Associations / Business Organization The Company Belongs To.
* **Read The Terms Of Service Thoroughly Before You Sign Up.**

Stream Host Checklist

* Price.

* Technical Specifications.

  - Disk Space.

  - Bandwidth.

  - Reliability / Uptime.

* Technical Support.

* Features.

  - FTP, PHP, Perl, SSI, .htaccess, SSH, MySQL, Cron, Database, SSL, E-Mail.

* Plugins.

* Hardware.

  - Ram.

  - Hard Drive Type.

* Operating System.

* Customer Reviews / Satisfaction / Reputation.

* Control Panel / User Interface.

* Refund Policy.

* Business Associations / Business Organization The Company Belongs To.

* **Read The Terms Of Service Thoroughly Before You Sign Up.**

Advertising Revenue

Advertising revenue is the heart of any successful business, and it is important to implement a viable revenue plan for the broadcast station. Every possible advertising element must be effectively utilized and maximized to ensure successful overall revenue generation.

Promotion of the station website in the actual broadcast, additional multimedia download content, and social media content is very important. This is free advertising that will attract the casual audience participants to the station website.

* It is very important to match the type of advertising with the broadcast station target audience.

* Use a blend of in-stream advertising in addition to website advertising.

These advertising solutions include:

* Web affiliate sales.

* Web banner advertising.

* Web video advertising.

* Web graphic advertising.

* Web keyword advertising.

* Stream advertising offers several options.

  - Stream advertising can be used in both audio and video multimedia broadcasts.

  - Stream advertising can be used in both live and on-demand multimedia content.

Blend the advertising within the broadcast, download multimedia, and website content. Blending the advertising will make the advertising more natural in appearance, and the visitor will be more susceptible to interact with it.

Successful advertising blending includes matching these content elements.

* Font type.

* Font color.

* Other font characteristics.

* Background color.

* Background composition.

* Border composition.

* Genre of music used in broadcast.

* Genre of music used in multimedia download.

* Genre of video used in broadcast.

* Genre of video used in multimedia download.

It Is Important To Ensure That All Embedded Advertising Is Mobile Display Compliant.

Station Promotion

Promotion is necessary for successfully spreading the word about a broadcast station and attracting a larger audience. It is important to actively promote both the station broadcast, station website and download multimedia.

Computer Apps

* I Tunes directory.

* Windows Media directory.

Mobile Apps

RadioDeck Directory SHOUTcast™ Radio Directory Icecast Directory http://www.eingrad.com/products/internet-radio-box/	Apple
TuneIn™ Directory http://www.tunein.com/get-tunein/	Apple, Android, Windows
Streema™ Directory https://itunes.apple.com/app/simple-radio-by-streema-tune/id891132290	Apple
SHOUTcast™ Radio Directory http://www.xiialive.com/	Android

Internet Broadcast Station Directories

* http://www.streamingradioworld.com

* http://www.streema.com

* http://www.tunein.com

* http://www.shoutcast.com

* http://www.icecast.org

* http://www.radioroku.com

* http://www.radioloyalty.com

* http://www.istreamradio.net

* http://www.delicast.com

* http://www.streamfinder.com

* http://www.radioguide.fm

* http://www.streamingthe.net

Internet Memes

Internet Memes are a combination of text and pictures that represent a concept or idea. The memes also include a website address that is incorporated within the graphic for the promotion. The concept of the Internet Meme is to create a graphic that people will virally share. Sharing the Meme offers a side benefit of promoting the website address as well.

* It is important to use a unique picture and comment that will immediately attract people's attention.

* It is important to use concepts and ideas that are easy to understand among many cultures.

* It is important to use words and grammar that is easy to understand among many cultures.

* It is important to use material that can be appreciated by all ages so never use vulgarity of lewdness.

* Simplicity is the key - Keep It Simple Stupid (KISS).

Create Free Memes Online

* http://www.memedad.com

* http://www.whatdoumeme.com

Online Sources For Quotes

* http://www.goodreads.com

* http://www.brainyquote.com

* http://www.thinkexist.com

GIMP - GNU Image Manipulation Program (GIMP)

Open Source and free software that is similar to Photoshop image editing software.

* http://www.gimp.org

Public Domain Paintings

* http://commons.wikimedia.org/wiki/Category:PD-Art_(Yorck_Project)

Creative Commons Images

* http://commons.wikimedia.org

British Royal Art Collection

* http://en.wikipedia.org/wiki/Royal_Collection

Public Domain Archive Of Clip Art

* http://www.openclipart.org

Public Domain Engravings And Pictures From Old Books

* http://www.fromoldbooks.org

* http://www.oldbookillustrations.com

* http://scrap.oldbookillustrations.com/archive

* http://www.oldbookart.com

Public Domain Photographs

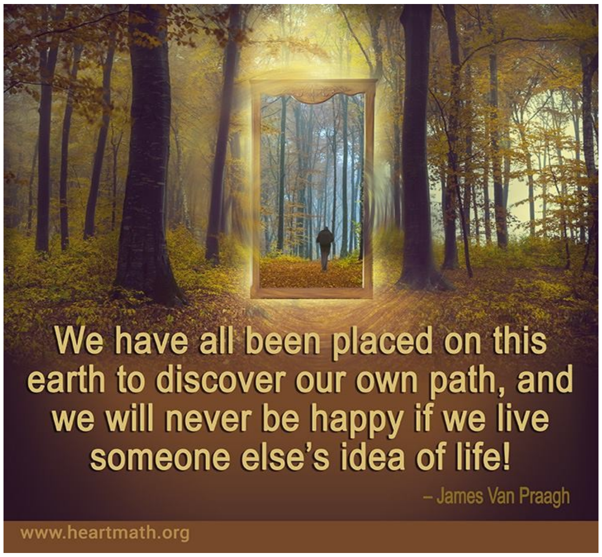
* http://www.public-domain-photos.com

Example Of An Internet Meme

Background image --->

Quote --->

Website address --->


We have all been placed on this earth to discover our own path, and we will never be happy if we live someone else's idea of life!
– James Van Praagh
www.heartmath.org

Audience Statistics

Tracking the station broadcast audience, multimedia downloads and website traffic is important in many aspects. Keeping records of audience participation can also provide information on historical trends for audience participation and future planning.

* Audience participation and visitor information can be used for promotion, advertising and content programming.

Examples of important statistical information that can provide insight into the audience participants and their habits include:

Broadcast

* Location of audience participant.

* Time duration that audience participants accessed broadcast.

* Software used by audience participants to access broadcast.

Website

* Location of visitors.

* Language of visitors.

* Web browsers used by visitors.

* Operating systems used by visitors.

* Time duration of visits.

* Web pages accessed by visitors.

* Origins of visitor traffic.

  - Search engine referrals.

  - Links referrals.

  - Direct.

* Content download.

* Multimedia server logs can be accessed and analyzed by software applications to retrieve this information.

* Website statistical information can be obtained using Google Analytics or similar services.

Station Documentation

It is important to thoroughly document all aspects of the Internet broadcast station. This documentation should also be kept as current as possible.

This information can be used for promotional, marketing or advertising planning. This information could also be used to help repair or reconstruct parts of the Internet broadcast station due to data damage, loss or cyber attack. A printed and electronic copy should be retained. Both copies should be kept in a secure location with limited access. A copy of the printed version can be left for reference If daily access to information is required.

Documentation that should be kept includes:

* Login information for web hosting.

* Billing information for web hosting

* Login information for stream hosting.

* Billing information for stream hosting.

* Login information for additional service providers.

* Billing information for additional service providers.

* Login information for advertising providers.

* Tax information for advertising providers.

* Media Royalty payment information.

* Electronic backup copy of the website.

* Printed copy of the website

* Special instructions or notes regarding equipment or services used in conjunction with the website.

* Special instructions or notes regarding equipment or services used in conjunction with web hosting.

* Special instructions or notes regarding equipment or services used in conjunction with stream hosting.

* Special instructions or notes regarding equipment or services used in conjunction with additional service providers.

* Keep copies of all correspondence / E-Mail with business providers and clients.

Password Security

Web hosting and multimedia server administrative access typically requires the use of an administrator user name and an associated password. The use of an authentication login system prevents unauthorized access to the system.

Administration Password Recommendation

* Change the default password setting.

* This password should contain a minimum of 15 characters.

These characters should include the following:

- Two upper case letters.

- Two lower case letters.

- Two numbers.

- Two special characters – examples of special characters include @ # $ % &.

* Establish a routine for changing the access password.

* It is vital that any password information is documented and stored in a secure method.

* **DO NOT USE ANY DEFAULT ACCESS PASSWORD SETTING.**

Safeguard Password Information

It is important to educate and Inform all persons that have login access to a server or host account that they must safeguard the access password information. It is imperative they understand the system can be compromised, and valuable data can be lost if they misuse this information.

Password Strength

You can check the relative strength of passwords online. The strength of a password indicates how easy it would be to break or compromise.

Here are some examples of online password strength detection websites:

* http://www.passwordmeter.com

* http://www.grc.com/haystack.htm

* http://rumkin.com/tools/password/passchk.php

* http://www.passwordstrengthcalculator.org

* http://www.yetanotherpasswordmeter.com

Solutions On A Budget

Sometimes there are not enough hours in a day to accomplish everything that needs to be done for the station. You can run into a time crunch even if you have lots of help. How can you achieve the impossible without breaking the bank?

Fiverr

http://www.Fiverr.com

This website has people with full time professional talents that are willing to complete specific tasks for you for the cost of $5. Sometimes projects will require multiple "$5" packages for your technical accomplishment. Vendors are peer related and divided into categories.

Freelancer

http://www.Freelancer.com

This site is more at the level of mid range budgets ($50-300) for a completed project. This site provides a larger selection of vendors that can offer their services.

Various Radio Resource Sites

If you have a drive for Do It Yourself (DIY), then there are various radio websites will discuss and trade information on how to achieve the best station via forums and other facets. Social interaction with other Internet Broadcasters and learning by On The Job Experience (OJT) will allow you to create a bond with communities. These communities are willing to offer tips, suggestions, and other information for building your content, and sharing experiences. This is highly encouraged for broadcasters.

Project Examples

* Organic Search Engine Traffic.

* Page Rank Links.

* Graphics.

* PHP / CSS.

* Search Engine Optimization.

* Google Adwords PPC.

* Google Adsense Integration.

* General PPC Integration.

* Content Writing.

* Smart Phone App Development.

* Shell Scripting.

Equipment

Where Radio And Recorded Audio Split

The main difference between Internet streaming audio and audio recording is the actual processing of the audio.

Recorded audio streamed to the listener is not always rendered as it was when it was recorded live.

Let us take a look at the steps to get a live stream to a listener.

Step 1: Audio is created.

Step 2: The audio passes through mics and mixers and routed to a sound card.

Step 3: The sound card converts the analogue audio into digital data.

Step 4: The digital audio is encoded using a specific codec and prepared for network delivery to the multimedia server.

Step 6: The digital data is sent to the multimedia server.

Step 7: The audio is now distributed by the multimedia server.

Computer hardware has an enormous impact on audio processing. This can be observed by listening to pre-recorded content and live studio content. Pre-recorded audio content tends to come out a lot cleaner. There are several variables that can cause problems for live audio content.

Electrical Grounding
(The infamous 60/50 Hz Hum.)

Imported audio coming into the sound card can be ruined by extraneous electrical noise whether you use a $300.00 sound card or a $60.00 sound card. Stray transient voltages that cause audio distortion can be eliminated by the use of proper electrical grounding techniques.

All external audio hardware (mixers, preamplifiers, Etc.) should be electrically routed to and grounded on a single power strip that is plugged into an individual wall socket. All devices that do not have a grounding plug can be converted via a grounding adapter.

All other equipment or hardware should be routed and grounded on a different single power strip electric that uses a different electrical wall socket. This includes your monitor and computer.

Hardware Layout

* Separate and tag wiring.

* Keep microphone and audio cables away from electrical power cords or electrical power extension cords.

* Keep audio cables as short as possible. This will prevent the audio cables from acting as antennas and picking up transient electrical noise.

* Keep audio cables close to the equipment, as signal interference can be induced from electrical cables in the wall.

It is typically a good idea to utilize a limited number of high lumen incandescent light bulbs to provide lightening for audio production rooms. Other forms of electrical lighting can induce electrical noise onto audio equipment.

It is important to get a baseline representation of what "silence" sounds like and listen for noise. You can use this audio baseline to track down interference problems.

NOTE:

Hardware Documentation

It is important to document the specifics of all hardware and equipment. This includes how it is wired together using block diagrams and or schematic diagrams. This will allow you to visual all the equipment that is used and how the equipment interacts.

Multimedia Encoding

Encoding audio requires setting a bitrate and sample rate.

Bitrate

This is the number of times per second that an audio bit is processed. This measurement is expressed in kilobits per second (Kbs).

The higher the bitrate used typically equates to higher quality and more bandwidth or storage space required.

256 Kbs - Used for CD quality audio.

128 Kbs - Used for FM radio quality audio.

32 Kbs - Used for AM radio quality audio.

These bitrate comparisons are based on the use of the MP3 or MPEG-2 Audio Layer III audio codec.

Using a more advanced audio codec can significantly reduce the required bitrate needed for quality audio recording. Here are some examples of audio codecs that provide more efficient audio compression:

* Opus.

* High Efficiency Advanced Audio Coding (HE-AAC).

Sample Rate

This is the number of times per second that an audio waveform is analyzed. This measurement is expressed in kilohertz per second (Khz).

The higher the sample rate used typically equates to higher quality and more bandwidth or storage space required.

48,000 KHz - Professional digital video equipment

44,100 Khz - Used for CD quality

22,050 Khz - Used for low quality speech (Similar to AM Radio)

NOTE:

Bitrate should match sample rate for encoding.

Types Of Bitrate Compression

* Constant Bitrate

The amount of data that is compressed per unit of time segment is constant. Constant Bitrate compresses data at a constant rate, which can cause complex segments of multimedia to suffer quality due to the inability of using additional compression resources.

* Variable Bitrate

The amount of data that is compressed per unit of time segment is varied. Variable Bitrate compresses data at a variable rate, which allows a higher compression rate to be allocated to more complex segments of multimedia and less compression rate for less complex segments.

In many cases, Variable Bitrate Compression can reduce the bandwidth used or the file size while still maintaining quality reproduction of the audio or video content.

Compression

Multimedia must be compressed to conserve bandwidth for distribution and disk space for storage.

There are two compression standards for audio or video content.

These are:

* Lossless Compression

This a data compression method that exactly compresses and compresses audio or video.

* Lossy Compression

This is a data compression method that uses data approximation to compress and uncompressed audio or video.

Both lossless and lossy compression are based on mathematical compression algorithms.

Video Levels

Ensuring proper video color levels will provide a quality viewing experience for the audience.

* Brightness.

This allows the adjustment of the light intensity within the video.

* Contrast

This allows the adjustment of the reflected light within the video.

* Hue.

This allows the adjustment of the actual colors of the video.

* Saturation.

This allows the adjustment of the strength of the video color.

It is important to balance out the various video settings to achieve the highest quality content.

Video Resolution

* A high quality video can be displayed using smaller dimensions with no visible artifacts present.

* A low quality video can be displayed using a larger dimension. However, the video will have artifacts present.

Frames per Second

This is the frequency at which still pictures are displayed per second.

* Television PAL and SECAM standards specify 25 frames per second.

* NTSC specifies 29.97 frames per second.

* Film is shot at the rate of 24 frames per second.

* The minimum frame rate to achieve the illusion of a moving image is approximately fifteen frames per second.

Interlace Scanning

This method of scanning uses two fields to create one frame. One field contains all the odd lines of the image and the second field contains all the even lines of the image.

Progressive Scanning (Noninterlaced Scanning)

This method of scanning requires all the lines of each frame to be drawn, in sequence, during each refresh period. This results in a higher spatial resolution and a lack of visual artifacts.

Deinterlacing

This technique is used to convert interlaced encoded video, such as analog or DVD material into progressively encoded video.

Scale

This sets the ratio in which the video will be re-scaled while it is being encoded. This can also be adjusted to reduce the bit rate of a video.

Width

This sets the width of the encoded video in pixels.

Height

This sets the height of the encoded video in pixels.

Bandwidth Calculations

You must determine the bandwidth requirements for multimedia servers. These calculations are based on the encoding bitrate of the content and the projected audience size.

Calculating bandwidth requirements for multimedia servers has several steps:

* Convert Kilobits per second encoding rate to Kilobytes per second encoding rate.
   Encoding bitrate (divided by) 8 (equals) Kilobytes per second.
   This answer is used in the next step.

* Compute the total number of Kilobytes per second for the entire audience.
   Kilobytes per second (multiplied by) Number of viewers / listeners (equals) Total Kilobytes per second.
   This answer is used in the next step.

* Convert total Kilobytes per second to total Kilobytes per minute.
   Kilobytes per second (multiplied by) 60 (equals) Kilobytes per minute. (60 seconds per minute.)
   This answer is used in the next step.

* Convert Kilobytes per minute to Kilobytes per hour.
   Kilobytes per minute (multiplied by) 60 (equals) Kilobytes per hour. (60 minutes per hour.)
   This answer is used in the next step.

* Compute the total number of Kilobytes per hour for the entire broadcast.
   Kilobytes per second (multiplied by) Number of hours (equals) TOTAL Kilobytes per hour.
   This answer is used in the next step.

* Convert total Kilobytes per hour to total Megabytes per hour.
   Kilobytes per hour (divided by) 1024 (equals) Megabytes per hour.

The final answer is **Total Megabytes per hour**

Minute and hour conversion information

* Divide minutes by 60 to get hundredths.

5 Minutes = .083

10 Minutes = .166

15 Minutes = .25

20 Minutes = .333

25 Minutes = .416

30 Minutes = .50

35 Minutes = .583

40 Minutes = .666

45 Minutes = .75

50 Minutes = .833

55 Minutes = .916

* Divide number of days by 24 to get total number hours.

1 Day = 24 Hrs

7 Days = 168 Hrs

14 Days = 336 Hrs

21 Days = 504 hrs

30 Days = 720 Hrs

Network Diagnostics

Internet broadcasters have the ability to source content from remote locations and to send the content to a central multimedia server. Unfortunately, remote locations or central media server locations can be subject to network delays or network routing problems. Assessing network data transit conditions can assist you in diagnosing and fixing any problems that are found.

There are several open source software packages that can be used to determine if any network problems exist along a data path.

These tools offer various features including:

* Determining the route for Internet data traveling from the remote content source location to the multimedia server.

* Determining the time for Internet data to travel from the remote content source location to the multimedia server.

You can download the software here:

Open Visual Trace
(Unix, Windows, Macintosh)

http://www.sourceforge.net/projects/openvisualtrace/

Zenmap
(Unix, Windows)

http://www.nmap.org/zenmap/

What Route
(Macintosh)

http://www.whatroute.net/

NOTE:

Ping time averages of less than 100 milliseconds are typically desired for connecting to a multimedia server that is used for streaming. It is also very important to have and maintain a zero packet loss for connecting to a multimedia server used for streaming.

HTML 5 Embedded Stream Player

Your station is no longer forced to rely on clunky embedded Flash players to distribute your Shoutcast, or Icecast streamed content on your website. You can now embed HTML 5 compliant stream players.

Example HTML code for embedding a HTML5 audio player on a website.

Shoutcast Server - MP3 Codec

```
<!-- START OF THE RADIO HTML5 PLAYER EMBEDDING --> <audio controls="true"><source src="http://213.73.255.244:10700/;stream.mp3" type="audio/mp3">Your browser does not support the audio element.</audio> <!-- END OF THE RADIO HTML5 PLAYER EMBEDDING -->
```

NOTE:

Insert a comma **;** immediately after the forward slash and before the stream name for Shoutcast servers. Example: /**;**stream.mp3

Shoutcast and Icecast Server - OGG Codec

```
<!-- START OF THE RADIO HTML5 PLAYER EMBEDDING --> <audio controls="true"><source src="http://streams.radio-gfm.net:8000/electro.ogg" type="audio/ogg">Your browser does not support the audio element.</audio> <!-- END OF THE RADIO HTML5 PLAYER EMBEDDING -->
```

Icecast Server - MP3 Codec

```
<!-- START OF THE RADIO HTML5 PLAYER EMBEDDING --> <audio controls="true"><source src="http://stream.crooner.fr:8000/crooner.mp3" type="audio/mp3">Your browser does not support the audio element.</audio> <!-- END OF THE RADIO HTML5 PLAYER EMBEDDING -->
```

Icecast Server - Opus Codec

```
<!-- START OF THE RADIO HTML5 PLAYER EMBEDDING --> <audio controls="true"><source src="http://ice.kultradio.fm:80/kult96.opus">Your browser does not support the audio element.</audio> <!-- END OF THE RADIO HTML5 PLAYER EMBEDDING -->
```

NOTE:

The **src** element is the URL location of the stream. This element should be changed to the URL web address of the audio you have selected.

Do Not Forget to change the **type="audio/mp3"/** to the correct codec used in the audio stream.

For Opus Codec – Do Not Include **type="audio/opus"/. L**eave that out of the HTML5 code.

Example HTML code for embedding a HTML5 video player on a website.

Webm Codec

```
<!-- START OF THE VIDEO HTML5 PLAYER EMBEDDING --><video width="300" height="300" controls="controls" poster="http://upload.wikimedia.org/wikipedia/commons/1/1b/RCA_Indian_Head_test_pattern.JPG">
<source src="http://g2.euer.tv:8000/erdehq.webm" type="video/webm"/>Your browser does not support HTML5 video. Please update your browser to view this media content.</video>
<!-- END OF THE VIDEO HTML5 PLAYER EMBEDDING -->
```

Theora Codec

```
<!-- START OF THE VIDEO HTML5 PLAYER EMBEDDING -->
<video width="300" height="300" controls="controls" poster="http://upload.wikimedia.org/wikipedia/commons/1/1b/RCA_Indian_Head_test_pattern.JPG">
<source src="http://bordeaux.fr.eu.org:80/stream.ogg" type="video/ogg"/>Your browser does not support HTML5 video. Please update your browser to view this media content.</video>
<!-- END OF THE VIDEO HTML5 PLAYER EMBEDDING -->
```

MP4 Codec

```
<!-- START OF THE VIDEO HTML5 PLAYER EMBEDDING -->
<video width="300" height="300" controls="controls"
```

```
poster="http://upload.wikimedia.org/wikipedia/commons/1/1b/RCA_Indian_Head_test_pattern.JPG"><source
src="https://archive.org/download/ComputerNetworks_TheHeraldsOfResourceSharing/
ComputerNetworks_TheHeraldsOfResourceSharing_512kb.mp4" type="video/mp4"/>Your browser does not support
HTML5 video. Please update your browser to view this media content.</video>
<!-- END OF THE VIDEO HTML5 PLAYER EMBEDDING -->
```

NOTE:

The **poster** element displays an image within the video player before the stream is launched. This element should be changed to the URL web address that displays a picture of you have selected.

The **width** and **height** elements should be changed to conform to the individual video that you are embedding.

The **src** element is the URL location of the stream. This element should be changed to the URL web address of the video you have selected.

Do Not Forget to change the **type="video/mp4"/** to the correct codec used in the video stream.

Audio Techniques

Properly using a microphone is as important as properly encoding the audio for presenting the intended program.

* Speak into the microphone, not away from it.

* Use proper distance between the microphone and your mouth.

Get close enough to the microphone so that your voice will not be obscured by ambient noise.

* Avoid getting too close to the microphone.

This will prevent sounds from your tongue or lips to be picked up.

* Use external dynamic directional broad frequency microphones.

This will provide the best audio spectrum during the recording process.

* Ensure that a windscreen is used reduce the effects of noise generated by speaking.

* The microphones should have a tripod or other piece of equipment to prevent it from moving around.

* If the video requires multiple voice artists, each artist should have their own microphone.

* Use the directional ability of the microphone.

Point the microphone to the source of sound in the studio.

* Test distance the distance of the microphone from the speakers in the studio.

Ensure that you can clearly record the required sounds.

* Avoid using the microphone around speakers or audio output devices.

* Avoid placing the microphone in areas that absorb sound.

This will distort the audio.

* Avoid placing the microphone in areas that produce echo.

This will distort the audio.

* Avoid placing the microphone in areas that have other types of ambient sound.

This will overwhelm the intended audio you wish to broadcast.

* Use proper grammar.

* Avoid using slang grammar or jargon.

* Be articulate in speaking.

* Do not shout or raise your voice.

* Use “que” cards or scripts to avoid memory lapses.

* Talk to the audience, do not merely read a script.

* Be persuasive about the presentation.

* Be enthusiastic about the presentation.

* Avoid using excessive hand / arm motion.

* Avoid using excessive moving around.

Video Techniques

The proper use of the camera is important to provide a quality viewing experience for video broadcasting.

* Pan camera angles properly.

Follow the action as it happens on the set.

* Camera angles.

Use different angles to break up the overall presentation.

* Try to avoid transitioning to or from extreme lighting environments.

This can cause very poor video rendering.

* Use smooth scene transition.

Smooth image transitions will provide a quality video experience. Jerky or abrupt transitions detract from the overall Viewing quality.

Foreground

The viewed area in the video should consist of what is being presented. Wide angle shots should only be used if the presenter is using displays or set props.

Background

Do not use a background that will overshadow what is being presented. This will cause the audience to concentrate on that instead of the content being presented. Use soft and pleasing colors for the background.

Graphics

* Use background images to enhance the content being presented. This includes pictures or displays.

* Use embedded captions during the video when discussing key points or emphasizing important concepts.

Surrounding Environment

It is important to limit ambient influences that can detract from the overall quality of the video content.

These influences include:

* Excessive light.

* Excessive sound.

* Excessive vibration.

Use care in selecting the filming location if the video is being produced in an outside environment.

* Avoid areas where shadows can affect the lighting.

* Avoid areas where echo or reverberation can affect the audio.

* Record video facing away from the sun or high-intensity light sources.

Set Area

* Do not clutter the set area with excessive props.

* Try to limit general movement around the central area being used in the video.

* Try to limit the number of people around the central area being used in the video.